Petition to examiner Patricia L Hailey

Pertaining to Office Action Summary date mailed 04/07/2003, regarding patent application serial number 09/ 955,254, filed by Gene E. Lightner 09/17/2001, response to Office Action is enclosed within, and is referred to numbers within the Office Action Summary.

Referring to a quotation of paragraph 35 U.S.C. 102 (b). The current patent application is devoid of any information obtained from all publications or public use or sale less than one year prior to the date of this application. Accordingly requirements of 35 U.S.C. 102, paragraph (b), are fulfilled.

In acknowledgment of In re Raner, 134 U.S.P.Q. 343 (CCPA 1962), as presented by the examiner, the designation Rainer within the above reference, was determined to be unrelated.

The Examiner is instructed to cancel claim **13** and claim **14**. It is expected that, upon examination of these withdrawals, the amended claims will be allowed by the Examiner.

Within the present invention amended claim **1** transfers hydrolysate to a phase forming vessel to form two mutually insoluble phases; a sugar phase and an aqueous acidic solution phase. This topic is lacking within prior art, supplied by the examiner, and thus prior art is without application within the present invention amended claim **1.**

It is expected that, upon examination of these explanations, all claims will be allowed by the examiner. Hence the enclosed clean copy of amended claims is petitioned to be allowable.

A clean copy, 2 pages, of all claims including amended claims, is provided.

Very respectfully,

Gene E Lightner

Gene E. Lightner

Do not enter
RM
8/27/03

RESPONSE TO OFFICE ACTION SUMMARY

August 19, 2003

Commissioner for Patents

P.O Box 1450

Alexandria VA 22313-1450

Petition to examiner Patricia L Hailey

Pertaining to Office Action Summary date mailed 08/06/2003, regarding patent application serial number 09/ 955,254, filed by Gene E. Lightner 09/17/2001, response to Office Action Summary is enclosed within, and is referred to numbers within the Office Action Summary.

Pertaining to the applicant amendments and remarks filed 05/12/2003, these amendments and remarks are requested to be superseded or combined with the present Office Action Summary.

1. Concerning of claims **1-12, 15** and **17-19** rejected under 35 U.S.C. 102(b) as being anticipated by Clausen, et al.(U.S. Patent No. 5,188,673). Art submitted by the applicant is evidence that a prior art search revealed findings substantially different from principles presented within the present application to be applicable. 35 U.S.C. 102(b) as reproduced in the following quotation:

"A person shall be entitled to a patent unless--
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States."

Conditions set forth in 35 U.S.C. 102(b) were found to be unrelated to the present application, as established within a prior art search.

Teachings of Clausen, et al., including column 2 line 42 to column 3 line 18 as well as column 4 line 31 to column 5, line 61 have been considered. These teachings cover a well known method for acid hydrolysis of a lignocellulose material to form sugars. In addition, recycle of acid is presented. Disclosure that removal of solid sugars from a hydrolysate is devoid in these teachings. Specifying formation of two mutually insoluble phases followed by separation of solid sugars and remaining hydrolysate, are features lacking from these teachings, whereas these features are key to the present application.

The teachings of Clausen, et al. states "recycling a portion of acid-sugar solution."

Considering that the present application claims complete recycling of remaining hydrolysate, these teachings lack application. The examiner states, " to isolate the sulfuric acid" acknowledging that sulfuric acid is isolated. The present application claims the solid sugars are removed from a hydrolysate, whereas the art of Clausen, et al. teaches removal of sulfuric acid from sugars, which is notably different from the claim within the present invention. For example, a procedure for extraction of sulfuric acid from a mixture containing sugars produced by hydrolysis so as to separate sulfuric acid from sugars is presented within U.S. patent No 4,608,245 authored by Gaddy and Clausen.

2. Regarding claims **13** and **14,** rejected under 35 U.S.C. 103(a), as being unpatentable over Clausen, et al. in view of Brink. Claims **13** and **14,** are deleted from consideration, as an entirely different method, rendering neutralization unnecessary, and claimed in a subsequent patent pending.

[13. (amended) The method of claim **[10]** 11 wherein [said] the aqueous solution [containing] contains an acid and is neutralized by a base or calcium carbonate.]

[14. (amended) The method of claim **[10]** 11 wherein [said] the aqueous solution [containing] contains an acid and is neutralized by ammonia.]

Further, both references directed to a well known process for acid hydrolysis of lignocellulose, so motivation to combine teachings of these references is groundless rather than being proper.

Referring to "Response to Arguments" wherein the examiners position assumes that Clausen, et al. (do) does form " a sugar phase and an aqueous acidic solution phase." This position is unsupported within teachings of Clausen, et al., so that logic applied by the examiner is unconvincing. Whereas the present application clearly provides a phase forming vessel, with the claimed purpose of forming mutually insoluble phases composed of solid sugars and a phase of an aqueous acidic solution. Furthermore, teachings of Clausen, et al., propose a solution of sugars for fermentation, rather than formation of solid sugars.

Claim **1** within the present application is amended to clarify the intent without changing the scope.

What is claimed is:

1.(amended) A method for separating sugars from a biomass hydrolyzed by an aqueous acidic solution which comprises:

providing a hydrolysis vessel for hydrolysis of a biomass, and

providing a supply of said biomass to said hydrolysis vessel, and

providing a supply of said aqueous acidic solution to said hydrolysis vessel, and